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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,914	10/25/2005	Richard Coogan	4662-37	1188
23117 7590 09/11/2007 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			EXAMINER SHOSHO, CALLIE E	
			ART UNIT 1714	PAPER NUMBER
			MAIL DATE 09/11/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,914	Applicant(s) COOGAN ET AL.	
	Examiner Callie E. Shosho	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-12 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. All outstanding rejections are overcome by applicants' amendment and 1.132 declaration filed 6/12/07.

The new grounds of rejection set forth below are necessitated by applicants' amendment and thus, the following action is final.

2. **NOTE:** The status identifiers for each of claim 11 and claim 12 are incorrect. The status identifier for each claim is "currently amended", however, given that no amendment was made to either of the claims, the proper status identifier is "previously presented".

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5 and 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Nachtkamp et al. (U.S. 5,804,647).

Nachtkamp et al. disclose aqueous dispersion of self-crosslinking polyurethane, i.e. aqueous coating composition, wherein the polyurethane is obtained by reaction of 20-60% polyisocyanate A corresponding to presently claimed A(i), 20-60% polyol B possessing molecular weight of 300-5000 such as polycarbonate polyol or polyether polyol corresponding to

presently claimed A(v), 0-15% crosslinkable polyol E having molecular weight of 62-250 corresponding to presently claimed A(iv), 2-12% ionic polyol C corresponding to presently claimed A(ii), 0-12% nonionic polyol D possessing molecular weight of 350-5000 corresponding to presently claimed A(iii), and diamine F corresponding to the presently claimed active-hydrogen chain extender. From the example, it is clear that the polyurethane is formed by reacting prepolymer with diamine, i.e. chain extender. It is disclosed that the prepolymer possesses NCO/OH ratio of 0.8-2. The polyurethane possesses average particle size of 10-1000 nm, preferably 30-500 nm. The aqueous dispersion comprises 10-60% water and thus, 90-40% polyurethane. There is also disclosed coating obtained from the polyurethane dispersion and a coated substrate coated with the coating. Although Nachtkamp et al. disclose coating comprising the aqueous polyurethane dispersion that is used to coat substrates, there is no explicit disclosure of method coating the substrate as required in present claim 11. However, it is clear that coating a substrate would necessarily inherently involve applying the coating to substrate followed by drying, i.e. removal of water (col.1, lines 7-12, col.2, lines 33-55, col.2, line 66-col.3, line 49, col.3, lines 59-66, col.4, lined 34-46 and 53-62, col.5, lines 31-37, col.6, lines 28-31 and 63-67, col.7, lines 1-8, 30-39, and 55-60, and example).

Although there is no disclosure in Nachtkamp et al. regarding the gloss of the aqueous coating upon drying, given that Nachtkamp et al. disclose coating comprising polyurethane as presently claimed, i.e. obtained from prepolymer and chain extender as presently claimed, in amount as presently claimed, it is clear that the coating of Nachtkamp et al. would inherently possess gloss as presently claimed.

In light of the above, it is clear that Nachtkamp et al. anticipate the present claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-5 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nachtkamp et al. (U.S. 5,804,647).

Nachtkamp et al. disclose aqueous dispersion of self-crosslinking polyurethane, i.e. aqueous coating composition, wherein the polyurethane is obtained by reaction of 20-60% polyisocyanate A corresponding to presently claimed A(i), 20-60% polyol B possessing molecular weight of 300-5000 such as polycarbonate polyol or polyether polyol corresponding to presently claimed A(v), 0-15% crosslinkable polyol E having molecular weight of 62-250 corresponding to presently claimed A(iv), 2-12% ionic polyol C corresponding to presently claimed A(ii), 0-12% nonionic polyol D possessing molecular weight of 350-5000 corresponding to presently claimed A(iii), and diamine F corresponding to the presently claimed active-hydrogen chain extender. From the example, it is clear that the polyurethane is formed by reacting prepolymer with diamine, i.e. chain extender. It is disclosed that the prepolymer possesses NCO/OH ratio of 0.8-2. The polyurethane possesses average particle size of 10-1000 nm, preferably 30-500 nm. The aqueous dispersion comprises 10-60% water and thus, 90-40% polyurethane. There is also disclosed coating obtained from the polyurethane dispersion and a coated substrate coated with the coating. Although Nachtkamp et al. disclose coating comprising the aqueous polyurethane dispersion that is used to coat substrates, there is no explicit disclosure of method coating the substrate as required in present claim 11. However, it is clear that coating a substrate would necessarily intrinsically involve applying the coating to substrate followed by drying, i.e. removal of water (col.1, lines 7-12, col.2, lines 33-55, col.2, line 66-col.3, line 49, col.3, lines 59-66, col.4, lined 34-46 and 53-62, col.5, lines 31-37, col.6, lines 28-31 and 63-67,

col.7, lines 1-8, 30-39, and 55-60, and example). Although there is no explicit disclosure of process for making the coating composition, from the example of Nachtkamp et al., it would have been obvious to one of ordinary skill in the art to react all the ingredients with the exception of the chain extender, i.e. the polyisocyanate, polyol, crosslinkable polyol, ionic polyol, and nonionic polyol, to form prepolymer, followed by forming aqueous dispersion of the prepolymer, neutralizing, and chain extending the prepolymer.

Although there is no disclosure in Nachtkamp et al. regarding the gloss of the aqueous coating upon drying, given that Nachtkamp et al. disclose coating comprising polyurethane as presently claimed, i.e. obtained from prepolymer and chain extender as presently claimed, in amount as presently claimed, it is clear that the coating of Nachtkamp et al. would intrinsically possess gloss as presently claimed.

While Nachtkamp et al. fail to exemplify the presently claimed composition, nevertheless, in light of the overlap between the claimed composition and the composition disclosed by Nachtkamp et al., it is urged that it would have been within the bounds of routine experimentation, as well as obvious to, and within the skill level of, one of ordinary skill in the art, to use composition which is both disclosed by Nachtkamp et al. and encompassed within the scope of the present claims and thereby arrive at the claimed invention.

Allowable Subject Matter

8. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 7 would be allowable if rewritten in independent form as described above given that there is no disclosure or suggestion in the "closest" prior art Nachtkamp et al. (U.S. 5,804,647) that the composition comprises a reactive diluent.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 1714

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
9/4/07